

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2009; month=10; day=28; hr=10; min=15; sec=51; ms=7; ]

=====

Application No: 10587032 Version No: 1.1

**Input Set:****Output Set:**

**Started:** 2009-10-28 10:09:10.555  
**Finished:** 2009-10-28 10:09:18.944  
**Elapsed:** 0 hr(s) 0 min(s) 8 sec(s) 389 ms  
**Total Warnings:** 83  
**Total Errors:** 0  
**No. of SeqIDs Defined:** 83  
**Actual SeqID Count:** 83

Error code	Error Description
W 402	Undefined organism found in <213> in SEQ ID (1)
W 402	Undefined organism found in <213> in SEQ ID (2)
W 402	Undefined organism found in <213> in SEQ ID (3)
W 402	Undefined organism found in <213> in SEQ ID (4)
W 402	Undefined organism found in <213> in SEQ ID (5)
W 402	Undefined organism found in <213> in SEQ ID (6)
W 402	Undefined organism found in <213> in SEQ ID (7)
W 402	Undefined organism found in <213> in SEQ ID (8)
W 402	Undefined organism found in <213> in SEQ ID (9)
W 402	Undefined organism found in <213> in SEQ ID (10)
W 402	Undefined organism found in <213> in SEQ ID (11)
W 402	Undefined organism found in <213> in SEQ ID (12)
W 402	Undefined organism found in <213> in SEQ ID (13)
W 402	Undefined organism found in <213> in SEQ ID (14)
W 402	Undefined organism found in <213> in SEQ ID (15)
W 402	Undefined organism found in <213> in SEQ ID (16)
W 402	Undefined organism found in <213> in SEQ ID (17)
W 402	Undefined organism found in <213> in SEQ ID (18)
W 402	Undefined organism found in <213> in SEQ ID (19)
W 402	Undefined organism found in <213> in SEQ ID (20)

**Input Set:**

**Output Set:**

**Started:** 2009-10-28 10:09:10.555  
**Finished:** 2009-10-28 10:09:18.944  
**Elapsed:** 0 hr(s) 0 min(s) 8 sec(s) 389 ms  
**Total Warnings:** 83  
**Total Errors:** 0  
**No. of SeqIDs Defined:** 83  
**Actual SeqID Count:** 83

Error code	Error Description
	This error has occurred more than 20 times, will not be displayed
W 213	Artificial or Unknown found in <213> in SEQ ID (51)
W 213	Artificial or Unknown found in <213> in SEQ ID (52)
W 213	Artificial or Unknown found in <213> in SEQ ID (53)
W 213	Artificial or Unknown found in <213> in SEQ ID (54)
W 213	Artificial or Unknown found in <213> in SEQ ID (55)
W 213	Artificial or Unknown found in <213> in SEQ ID (56)
W 213	Artificial or Unknown found in <213> in SEQ ID (58)
W 213	Artificial or Unknown found in <213> in SEQ ID (60)
W 213	Artificial or Unknown found in <213> in SEQ ID (62)
W 213	Artificial or Unknown found in <213> in SEQ ID (64)
W 213	Artificial or Unknown found in <213> in SEQ ID (66)
W 213	Artificial or Unknown found in <213> in SEQ ID (67)
W 213	Artificial or Unknown found in <213> in SEQ ID (68)
W 213	Artificial or Unknown found in <213> in SEQ ID (70)
W 213	Artificial or Unknown found in <213> in SEQ ID (72)
W 213	Artificial or Unknown found in <213> in SEQ ID (74)
W 213	Artificial or Unknown found in <213> in SEQ ID (77)
W 213	Artificial or Unknown found in <213> in SEQ ID (79)
W 213	Artificial or Unknown found in <213> in SEQ ID (80)
W 213	Artificial or Unknown found in <213> in SEQ ID (82)
	This error has occurred more than 20 times, will not be displayed



# SEQUENCE LISTING

<110> CHIRON CORPORATION  
HARDY, Stephen F  
DONNELLY, III, John J  
ZUR MEGEDE, Jan T

<120> VECTORS FOR EXPRESSION OF HML-2 POLYPEPTIDES

<130> PP19482.0007

<140> 10587032

<141> 2009-10-13

<150> PCT/US03/18666

<151> 2003-06-13

<150> 60/388831

<151> 2002-06-16

<150> 60/472189

<151> 2003-05-20

<160> 83

<170> PatentIn, version 3.5

<210> 1

<211> 1998

<212> DNA

<213> Human endogenous retrovirus, K family (HERV-K)

<400> 1

atggggc	ctaaaag	taaaagt	aat	taaaagt	aa	atatgcct	ctt	atctcag	cttt	attataa	60											
attcttt	taaa	aaagagg	ggg	ag	ttaaag	ta	tct	acaaaa	at	ctaat	caa	gct	attt	caa	120							
ataatag	aac	aat	tttgccc	at	gg	tttcca	ga	acaagg	aa	ct	ttagat	ct	aaa	agatt	gg	180						
aaaaga	attg	g	taagga	act	aaa	acaag	ca	gg	tagga	agg	g	ta	at	at	cat	tcc	act	taca	240			
gtatg	gaatg	att	ggg	ccat	tatt	aaag	ca	gct	ttaga	aac	catt	tcaa	ac	aga	aga	agat	300					
agcgt	ttcag	ttt	ctgat	gc	cc	ctgga	agc	tgt	ataat	ag	att	g	aat	ga	aa	acaca	agg	360				
aaaaa	atccc	agaa	agaaa	ac	gga	agg	ttta	catt	gcga	at	g	tag	caga	gcc	g	g	ta	atg	420			
gctcag	tcaa	cg	aaaa	atgt	t	gact	ataat	ca	att	acag	g	agg	t	gata	ta	t	c	t	gaaa	acg	480	
ttaaa	attag	aagg	aaa	agg	tcc	aga	atta	gt	ggg	g	ccat	cag	agt	t	caa	acc	ac	gag	gc	540		
acaag	tctc	ttcc	agcag	g	tcag	gtgc	ct	g	taac	att	ac	aac	ct	caaaa	gcag	gt	taaa	600				
gaaa	aata	aga	ccca	accg	cc	ag	tag	cct	at	ca	ata	ctg	gc	ctcc	g	g	ctga	act	t	cag	tat	660
cggcc	acccc	cagaa	agt	ca	gtat	ggat	at	ccag	gaat	gc	cccc	ag	cacc	acag	gg	cag	g	720				
gcgc	catacc	ctcag	ccg	cc	cact	agg	gaga	ct	ta	at	ct	ca	cgg	cacc	acc	tag	tag	acag	780			
ggtag	taaat	tacat	gaa	at	tatt	gata	aaa	tca	agaa	agg	aagg	agata	c	tgag	g	cat	g	840				
caatt	cccag	taac	gttaga	acc	gat	gcca	cct	ggaga	ag	gag	cca	aga	ggg	agag	cct	900						
cccac	agttg	agg	ccagata	caag	t	ctttt	t	cgata	aaaa	ag	ctaaa	aga	tat	gaa	agag	960						
ggag	taaaa	ac	agt	atg	gacc	caact	ccct	t	at	atgag	ga	catt	att	aga	t	ttcc	att	gct	1020			
catg	gacata	gact	catt	cc	ttat	gatt	gg	gag	att	ctg	g	caaa	at	cg	t	c	t	c	accc	1080		
tct	caat	ttt	taca	att	ta	gact	ttg	gtg	g	att	gat	ggg	taca	aga	aca	gg	tcc	ga	aga	1140		
aatag	ggg	ctg	cca	at	cct	cc	ag	tt	aacata	gat	gcag	atc	aact	att	agg	aat	agg	t	caa	1200		
aattg	gag	ta	ctatt	ag	tca	aca	ag	catta	atg	caaaa	atg	agg	ccatt	ga	gca	ag	t	aga	1260			
gctat	ctg	cc	ttag	ag	cctg	gg	aaaaa	atc	caag	accc	ag	gaag	tac	cctg	ccc	ct	cat	tt	1320			
aata	cag	ta	gaca	agg	ttc	aaa	agag	ccc	tat	cct	gatt	ttg	tgg	caag	gct	cca	agat	1380				
gtt	gct	caaa	agt	caatt	gc	t	gat	gaaaa	gccc	g	taag	g	tcat	ag	t	gga	gtt	gat	ggca	1440		

tatgaaaacg	ccaatcctga	gtgtcaatca	gccattaagc	cattaaaagg	aaaggttcct	1500
gcaggatcag	atgtaatctc	agaatatgta	aaagcctgtg	atggaatcgg	aggagctatg	1560
cataaagcta	tgettattggc	tcaagcaata	acaggagttg	ttttaggagg	acaagttaga	1620
acatttgga	gaaaatgtta	taattgtggt	caaattggtc	acttaaaaaa	gaattgcca	1680
gtcttaata	aacagaatat	aactattcaa	gcaactacaa	caggtagaga	gccacctgac	1740
ttatgtccaa	gatgtaaaaa	aggaaaacat	tgggctagtc	aatgtcgttc	taaatttgat	1800
aaaaatgggc	aaccattgtc	gggaaacgag	caaagggggc	agcctcaggc	cccacaacaa	1860
actggggcat	tcccaattca	gccatttggt	cctcaggggt	ttcagggaca	acaacccccca	1920
ctgtcccaag	tgtttcaggg	aataagccag	ttaccacaat	acaacaattg	tcccccgcca	1980
caagcggcag	tgcagcag					1998

<210> 2  
 <211> 2001  
 <212> DNA  
 <213> Human endogenous retrovirus, K family (HERV-K)

<400>	2					
atggggcaaa	ctaaaagtaa	aattaaaagt	aaatatgcct	cttatctcag	ctttattaaa	60
attcttttaa	aaagaggggg	agttaaagta	tctacaaaaa	atctaataca	gctatttcaa	120
ataatagaac	aattttgccc	atggtttcca	gaacaaggaa	ctttagatct	aaaagattgg	180
aaaagaattg	gtaaggaaact	aaaacaagca	ggtaggaagg	gtaatatcat	tccacttaca	240
gtatggaatg	attggggccat	tattaaagca	gctttagaac	catttcaaac	agaagaagat	300
agcgtttcag	tttctgatgc	ccctggaagc	tgtataatag	attgtaatga	aaacacaagg	360
aaaaaatccc	agaaagaaac	ggaagggttta	cattgcgaat	atgtagcaga	gccggtaatg	420
gctcagtc	cgcaaaatgt	tgactataat	caattacagg	aggtgatata	tcttgaaacg	480
ttaaaattag	aaggaaaagg	tccagaatta	gtggggccat	cagagtctaa	accacgaggc	540
acaagtcctc	ttccagcagg	tcagggtgcct	gtaacattac	aacctcaaaa	gcagggttaa	600
gaaaataaga	cccaaccgcc	agtagcctat	caatactggc	ctccggctga	acttcagtat	660
cggccacccc	cagaaagtca	gtatggatat	ccaggaatgc	ccccagcacc	acagggcagg	720
gcgccatacc	ctcagccgcc	cactaggaga	cttaatccta	cggcaccacc	tagtagacag	780
ggtagtaaat	tacatgaaat	tattgataaa	tcaagaaagg	aaggagatac	tgaggcatgg	840
caattcccag	taacgttaga	accgatgcc	cctggagaag	gagcccaaga	gggagagcct	900
cccacagttg	agccagata	caagtctttt	tcgataaaaa	agctgaaaga	tatgaaagag	960
ggagtaaaac	agtatggacc	caactcccct	tatatgagga	cattattaga	ttccattgct	1020
catggacata	gactcattcc	ttatgattgg	gagattctgg	caaaatcgtc	tctctcacc	1080
tctcaatttt	tacaatttaa	gacttggtgg	attgatgggg	tacaagaaca	ggtcggaaga	1140
aatagggtctg	ccaatcctcc	agttaacata	gatgcagatc	aactattagg	aatagggtcaa	1200
aattggagta	ctattagtca	acaagcatta	atgcaaaatg	aggccattga	gcaagttaga	1260
gctatctgcc	ttagagcctg	ggaaaaaatc	caagaccacg	gaagtacctg	cccctcattt	1320
aatacagtaa	gacaagggtc	aaaagagccc	tatcctgatt	ttgtggcaag	gtccaagat	1380
gttgctcaaa	agtcaattgc	tgatgaaaaa	gcccgtaaag	tcatagtgga	gttgatggca	1440
tatgaaaacg	ccaatcctga	gtgtcaatca	gccattaagc	cattaaaagg	aaaggttcct	1500
gcaggatcag	atgtaatctc	agaatatgta	aaagcctgtg	atggaatcgg	aggagctatg	1560
tataaagcta	tgettattggc	tcaagcaata	acaggagttg	ttttaggagg	acaagttaga	1620
acatttgga	gaaaatgtta	taattgtggt	caaattggtc	acttaaaaaa	gaattgcca	1680
gtcttaata	aacagaatat	aactattcaa	gcaactacaa	caggtagaga	gccacctgac	1740
ttatgtccaa	gatgtaaaaa	aggaaaacat	tgggctagtc	aatgtcgttc	taaatttgat	1800
aaaaatgggc	aaccattgtc	gggaaacgag	caaagggggc	agcctcaggc	cccacaacaa	1860
actggggcat	tcccaattca	gccatttggt	cctcaggggt	ttcagggaca	acaacccccca	1920
ctgtcccaag	tgtttcaggg	aataagccag	ttaccacaat	acaacaattg	tcccccgcca	1980
caagcggcag	tgcagcagta	g				2001

<210> 3  
 <211> 2004  
 <212> DNA  
 <213> Human endogenous retrovirus, K family (HERV-K)

<400> 3

atggggc	ctaaaag	taaaagt	aactaaa	agtaaat	atgcct	cttatct	cagcttt	attataa	60
attcttt	taa	aaagagg	ggg	agtagag	ta	tctacaaa	aa	atctaata	120
ataatag	aac	aattttg	ccc	atggttt	cca	gaacaagg	aa	ctttagat	180
aaaaga	attg	gcgagga	act	aaaaca	agca	ggtagaaa	agg	gtaatat	240
gtatgga	atg	attgggg	ccat	tattaa	agca	gctttaga	aac	catttcaa	300
agcgttt	cag	tttctga	tgc	ccctgga	agc	tgtgta	aatag	attgta	360
agaaaat	ccc	agaaaga	aaac	agaaagt	ttta	cattgc	gaat	atgtaac	420
gctcagt	caa	cgcaaaa	atgt	tgactata	aat	caattac	aggg	tgatata	480
ttaaaat	tag	aagggaa	agg	tccaga	aatta	gtgggg	ccat	cagagt	540
ccaagt	cctc	ttccag	cagg	tcaggt	gccc	gtaacat	tac	aacctca	600
gaaaata	aga	cccaacc	gcc	agtagc	ttat	caatact	ggc	cgccgg	660
ctgccac	ccc	cagaa	agtca	gtatgg	atat	ccagga	atgc	cccagc	720
gcgccat	atc	ctcagc	cgcc	cactgt	gaga	cttaate	ccta	cagcat	780
gggtggt	acac	tgcacg	cagt	cattgat	gaa	gccagaa	aaac	aggga	840
cggttct	ctg	taatttt	taca	actggt	acag	gccggg	gaag	agactca	900
gcccga	gctg	agactag	atg	tgaac	ctttc	accatg	aaaa	tgtaaaa	960
ggagtta	aaac	aatatgg	atc	caactc	ccct	tataata	agaa	cattatta	1020
catggaa	ata	gacttact	cc	ttatgac	tgg	gaaagt	tttg	ccaaat	1080
tctcagt	atc	tacagtt	ttaa	aacctg	ggtg	atgatg	gag	tacaaga	1140
aatcagg	cta	ctaagc	ccac	tgtta	aatata	gacgcag	acc	aattgtt	1200
aattgg	agca	ccatta	aacca	acaatc	agtg	atgcaga	atg	aggctat	1260
gctattt	gcc	tcagggc	cctg	gggaaaa	att	caggacce	cag	gaacag	1320
tcaatt	tagac	aaggct	ctaa	agagcc	atat	cctgac	tttg	tggcaag	1380
gctcaaa	agt	ctattac	agaa	tgaca	atgcc	cgaaa	agtta	ttgtaga	1440
gaaaatg	caa	atccaga	atg	tcagtc	ggcc	ataaa	gccat	taaaagg	1500
ggagt	tgatg	taattac	agaa	atatgt	gaag	gcttgt	gatg	ggattg	1560
aaggca	atgc	taatgg	ctca	agcaat	gagg	gggtc	actc	taggag	1620
tttggg	aaaa	aatgtt	tataa	ttgtg	gtcaa	atcggt	catc	tgaaa	1680
ttaaata	aaac	agaata	tataat	aaatca	agct	attacag	caa	aaaata	1740
ctgtgt	ccaa	aatgtg	gaaa	aggaaa	acat	tgggcca	atc	aatgtc	1800
aaagat	gggc	aaccatt	gtc	gggaaa	acagg	aagagg	gggc	agcctc	1860
actggg	gcat	tcccag	ttca	actgtt	tgtt	cctcag	ggtt	ttcaag	1920
cagaaa	atac	caccact	tca	gggagt	tcagc	caattac	aaac	aatcca	1980
ccacag	cagg	cagcg	ccaca	gtag					2004

<210> 4

<211> 852

<212> DNA

<213> Human endogenous retrovirus, K family (HERV-K)

<400> 4

atggggc	ctaaaag	taaaagt	aattaaa	agtaaat	atgcct	cttatct	cagcttt	attataa	60
attcttt	taa	aaagagg	ggg	agttaaa	agta	tctacaaa	aa	atctaata	120
ataatag	aac	aattttg	ccc	atggttt	cca	gaacaagg	aa	cttcagat	180
aaaaga	attg	gtaagga	act	aaaaca	agca	ggtagga	agg	gtaatat	240
gtatgga	atg	attgggg	ccat	tattaa	agca	gctttaga	aac	catttcaa	300
agcattt	cag	tttctga	tgc	ccctgga	agc	tgttta	aatag	attgta	360
aaaaaat	ccc	agaaaga	aaac	cgaaagt	ttta	cattgc	gaat	atgtag	420
gctcagt	caa	cgcaaaa	atgt	tgactata	aat	caattac	aggg	tgatata	480
ttaaaat	tag	aagggaa	agg	tccaga	aatta	atgggg	ccat	cagagt	540
acaagt	cctc	ttccag	cagg	tcaggt	gctc	gtaagat	tac	aacctca	600
gaaaata	aga	cccaacc	gc	agtagc	cctat	caatact	gcc	gctggc	660
ggccac	cccc	agaaag	tcag	tatgg	atatc	cagga	atgcc	cccagc	720
cgccata	acca	tcagc	cgcc	actagg	agac	ttaat	cctat	ggcacc	780
gtagtga	att	acatga	aatt	attgata	aat	caagaa	aggga	aggaga	840
aattccc	cagt	aa							852

<210> 5  
 <211> 666  
 <212> PRT  
 <213> Human endogenous retrovirus, K family (HERV-K)

<400> 5  
 Met Gly Gln Thr Lys Ser Lys Ile Lys Ser Lys Tyr Ala Ser Tyr Leu  
 1 5 10 15  
 Ser Phe Ile Lys Ile Leu Leu Lys Arg Gly Gly Val Lys Val Ser Thr  
 20 25 30  
 Lys Asn Leu Ile Lys Leu Phe Gln Ile Ile Glu Gln Phe Cys Pro Trp  
 35 40 45  
 Phe Pro Glu Gln Gly Thr Leu Asp Leu Lys Asp Trp Lys Arg Ile Gly  
 50 55 60  
 Lys Glu Leu Lys Gln Ala Gly Arg Lys Gly Asn Ile Ile Pro Leu Thr  
 65 70 75 80  
 Val Trp Asn Asp Trp Ala Ile Ile Lys Ala Ala Leu Glu Pro Phe Gln  
 85 90 95  
 Thr Glu Glu Asp Ser Val Ser Val Ser Asp Ala Pro Gly Ser Cys Ile  
 100 105 110  
 Ile Asp Cys Asn Glu Asn Thr Arg Lys Lys Ser Gln Lys Glu Thr Glu  
 115 120 125  
 Gly Leu His Cys Glu Tyr Val Ala Glu Pro Val Met Ala Gln Ser Thr  
 130 135 140  
 Gln Asn Val Asp Tyr Asn Gln Leu Gln Glu Val Ile Tyr Pro Glu Thr  
 145 150 155 160  
 Leu Lys Leu Glu Gly Lys Gly Pro Glu Leu Val Gly Pro Ser Glu Ser  
 165 170 175  
 Lys Pro Arg Gly Thr Ser Pro Leu Pro Ala Gly Gln Val Pro Val Thr  
 180 185 190  
 Leu Gln Pro Gln Lys Gln Val Lys Glu Asn Lys Thr Gln Pro Pro Val  
 195 200 205  
 Ala Tyr Gln Tyr Trp Pro Pro Ala Glu Leu Gln Tyr Arg Pro Pro Pro  
 210 215 220  
 Glu Ser Gln Tyr Gly Tyr Pro Gly Met Pro Pro Ala Pro Gln Gly Arg  
 225 230 235 240  
 Ala Pro Tyr Pro Gln Pro Pro Thr Arg Arg Leu Asn Pro Thr Ala Pro  
 245 250 255  
 Pro Ser Arg Gln Gly Ser Lys Leu His Glu Ile Ile Asp Lys Ser Arg  
 260 265 270



Lys Glu Gly Asp Thr Glu Ala Trp Gln Phe Pro Val Thr Leu Glu Pro  
 275 280 285

Met Pro Pro Gly Glu Gly Ala Gln Glu Gly Glu Pro Pro Thr Val Glu  
 290 295 300

Ala Arg Tyr Lys Ser Phe Ser Ile Lys Lys Leu Lys Asp Met Lys Glu  
 305 310 315 320

Gly Val Lys Gln Tyr Gly Pro Asn Ser Pro Tyr Met Arg Thr Leu Leu  
 325 330 335

Asp Ser Ile Ala His Gly His Arg Leu Ile Pro Tyr Asp Trp Glu Ile  
 340 345 350

Leu Ala Lys Ser Ser Leu Ser Pro Ser Gln Phe Leu Gln Phe Lys Thr  
 355 360 365

Trp Trp Ile Asp Gly Val Gln Glu Gln Val Arg Arg Asn Arg Ala Ala  
 370 375 380

Asn Pro Pro Val Asn Ile Asp Ala Asp Gln Leu Leu Gly Ile Gly Gln  
 385 390 395 400

Asn Trp Ser Thr Ile Ser Gln Gln Ala Leu Met Gln Asn Glu Ala Ile  
 405 410 415

Glu Gln Val Arg Ala Ile Cys Leu Arg Ala Trp Glu Lys Ile Gln Asp  
 420 425 430

Pro Gly Ser Thr Cys Pro Ser Phe Asn Thr Val Arg Gln Gly Ser Lys  
 435 440 445

Glu Pro Tyr Pro Asp Phe Val Ala Arg Leu Gln Asp Val Ala Gln Lys  
 450 455 460

Ser Ile Ala Asp Glu Lys Ala Arg Lys Val Ile Val Glu Leu Met Ala  
 465 470 475 480

Tyr Glu Asn Ala Asn Pro Glu Cys Gln Ser Ala Ile Lys Pro Leu Lys  
 485 490 495

Gly Lys Val Pro Ala Gly Ser Asp Val Ile Ser Glu Tyr Val Lys Ala  
 500 505 510

Cys Asp Gly Ile Gly Gly Ala Met Tyr Lys Ala Met Leu Met Ala Gln  
 515 520 525

Ala Ile Thr Gly Val Val Leu Gly Gly Gln Val Arg Thr Phe Gly Arg  
 530 535 540

Lys Cys Tyr Asn Cys Gly Gln Ile Gly His Leu Lys Lys Asn Cys Pro  
 545 550 555 560

Val Leu Asn Lys Gln Asn Ile Thr Ile Gln Ala Thr Thr Thr Gly Arg  
 565 570 575

Glu Pro Pro Asp Leu Cys Pro Arg Cys Lys Lys Gly Lys His Trp Ala  
 580 585 590

Ser Gln Cys Arg Ser Lys Phe Asp Lys Asn Gly Gln Pro Leu Ser Gly  
 595 600 605

Asn Glu Gln Arg Gly Gln Pro Gln Ala Pro Gln Gln Thr Gly Ala Phe  
 610 615 620

Pro Ile Gln Pro Phe Val Pro Gln Gly Phe Gln Gly Gln Gln Pro Pro  
 625 630 635 640

Leu Ser Gln Val Phe Gln Gly Ile Ser Gln Leu Pro Gln Tyr Asn Asn  
 645 650 655

Cys Pro Pro Pro Gln Ala Ala Val Gln Gln  
 660 665

<210> 6  
 <211> 667  
 <212> PRT  
 <213> Human endogenous retrovirus, K family (HERV-K)

<400> 6  
 Met Gly Gln Thr Lys Ser Lys Thr Lys Ser Lys Tyr Ala Ser Tyr Leu  
 1 5 10 15

Ser Phe Ile Lys Ile Leu Leu Lys Arg Gly Gly Val Arg Val Ser Thr  
 20 25 30

Lys Asn Leu Ile Lys Leu Phe Gln Ile Ile Glu Gln Phe Cys Pro Trp  
 35 40 45

Phe Pro Glu Gln Gly Thr Leu Asp Leu Lys Asp Trp Lys Arg Ile Gly  
 50 55 60

Glu Glu Leu Lys Gln Ala Gly Arg Lys Gly Asn Ile Ile Pro Leu Thr  
 65 70 75 80

Val Trp Asn Asp Trp Ala Ile Ile Lys Ala Ala Leu Glu Pro Phe Gln  
 85 90 95

Thr Lys Glu Asp Ser Val Ser Val Ser Asp Ala Pro Gly Ser Cys Val  
 100 105 110

Ile Asp Cys Asn Glu Lys Thr Gly Arg Lys Ser Gln Lys Glu Thr Glu  
 115 120 125

Ser Leu His Cys Glu Tyr Val Thr Glu Pro Val Met Ala Gln Ser Thr  
 130 135 140

Gln Asn Val Asp Tyr Asn Gln Leu Gln Gly Val Ile Tyr Pro Glu Thr  
 145 150 155 160

Leu Lys Leu Glu Gly Lys Gly Pro Glu Leu Val Gly Pro Ser Glu Ser  
 165 170 175

Lys Pro Arg Gly Pro Ser Pro Leu Pro Ala Gly Gln Val Pro Val Thr  
 180 185 190

Leu Gln Pro Gln Thr Gln Val Lys Glu Asn Lys Thr Gln Pro Pro Val  
 195 200 205

Ala Tyr Gln Tyr Trp Pro Pro Ala Glu Leu Gln Tyr Leu Pro Pro Pro  
 210 215 220

Glu Ser Gln Tyr Gly Tyr Pro Gly Met Pro Pro Ala Leu Gln Gly Arg  
 225 230 235 240

Ala Pro Tyr Pro Gln Pro Pro Thr Val Arg Leu Asn Pro Thr Ala Ser  
 245 250 255

Arg Ser Gly Gln Gly Gly Thr Leu His Ala Val Ile Asp Glu Ala Arg  
 260 265 270

Lys Gln Gly Asp Leu Glu Ala Trp Arg Phe Leu Val Ile Leu Gln Leu  
 275 280 285

Val Gln Ala Gly Glu Glu Thr Gln Val Gly Ala Pro Ala Arg Ala Glu  
 290 295 300

Thr Arg Cys Glu Pro Phe Thr Met Lys Met Leu